Amendments to the Specification:

Before paragraph [0001] delete "Specification" and insert the following heading:

Background of the Invention

Please replace paragraph [0011B] with the following amended paragraph:

[0011B] A raster probe microscope ~~according to the generic term of claim 1~~ is known from the publication "Design and calibration of a scanning force microscope for friction, adhesion, and contact potential studies" by Kolestke et al. (Rev. Sci. Instrum., American Institute of Physics, New York (01-09-1995), 66(9), 4566-4574).

Before paragraph [0013] insert the following heading:

Summary of the Invention

Please replace paragraph [0013] with the following amended paragraph:

[0013] The problem of the present invention lies, therefore, in the creation of an improved raster probe measuring process, with which at least the adhesion and the friction can be measured simultaneously. The magnitudes mentioned should also be measurable here ~~according to possibility~~ possibly, whether alone or in common, with still other material properties of interest, such as, for example, certain elastic constants, comprising the adhesion and the rigidity, and/or the topography, in which context the expression "material properties" in the scope of the present specification can cover also optical signals of a sample to be examined, as well as magnetic or electric forces, information data about the temperature distribution and possibly also other measurement values. The problem consists, further, in the creation of a suitable raster probe microscope for the execution of such a measuring process.

Please replace paragraph [0018] with the following amended paragraph:

[0018] To the vertical oscillation of the sample and/or the probe there is preferably superimposed at least one second oscillation with a frequency of at least 1 kHz and an amplitude of at least 0.1 nm, in particular, however, with a frequency of 5 kHz to 1 Mhz and an amplitude of 1 to 10 nm. There is advantageously used a horizontal oscillation with a

frequency of at least 500 Hz, in particular[[, however,]] 10 to 100 kHz, and an amplitude of at least 0.1 nm, ~~especially, however,~~ and especially 1 to 30 nm.

Please replace paragraph [0020] with the following amended paragraph:

[0020] A raster probe microscope suited for the execution of this process according to the ~~invention, with the features given in the generic term of claim 1, additionally~~ invention additionally also comprises ~~according to the invention~~ an arrangement for the vertical and/or horizontal moving of the sample, an arrangement for detecting the sample movement and an arrangement for detecting the vertical and/or lateral deformation of the raster probe. The arrangements for the moving of the raster probe or of the sample are formed here in such manner that the raster probe and the sample surface ~~are bringable into contact~~ can be or are brought into contact in such manner that they interact with one another in a determined manner, which comprises in particular a contact with a given normal or perpendicular force.

Before paragraph [0026] insert the following heading:

Brief Description of the Drawings

Please replace paragraph [0026] with the following amended paragraph:

[0026] Further features and advantages of the inventive process and of the inventive raster probe microscope for the execution of this process are yielded not only from the appertaining claims--individually and/or in combination--but also from the following description of preferred examples of execution in conjunction with the appertaining drawings. ~~In the drawings~~ The drawings show:

Fig. 1	the theoretical construction of a raster probe microscope according to invention;
Fig. 2	the coordinate system used as basis for the derivation of the forces;
Fig. 3A	the beam bending on vertical approach to a sample surface to be examined;
Fig. 3B	the beam bending in moving of the sample surface to be examined relatively to the force field peak;
Fig. 4A to 4H	different beam deformations over time to illustrate the principle of [[a]] combination pulsed-force mode/ dynamic friction;

Fig. 5 in schematic representation the time-dependency of a measuring signal f(t) for the illustration of a dynamic friction measurement;

Fig. 6 a run-off diagram for a measurement according to the invention for the combination pulsed-force-mode/dynamic friction according to Fig. 4;

Fig. 7A 7H the principle of a combination pulsed-force-mode/force modulation;

Fig. 8 a run-off diagram for a measurement according to the invention for the combination pulsed-force-mode/force modulation according to Fig. 7;

Fig. 9A to 9B theoretically calculated friction amplitudes and phase-dependencies of the cantilever on the modulation amplitudes A_M of an excitation shearing piezo element;

Fig. 10 measuring signals of the new-type raster probe microscope on the basis of a vertical bending of the cantilever (combination pulsed-force-mode/force modulation);

Fig. 11 measuring signals of the new-type raster probe microscope on the basis of a vertical bending of the cantilever (combination pulsed-force-mode/force modulation);

Fig. 12A to 12D a depiction of the topography of the adhesion and of the friction on a sample surface, examined with a raster probe microscope according to the invention for a combination pulsed-force-mode/dynamic friction; and

Fig. 13A to 13D a depiction of the topography, the adhesion, the friction on a sample surface, examined with a raster probe microscope according to the invention for a combination pulsed-force-mode/force modulation.

Before paragraph [0027] insert the following heading:

Detailed Description

Please replace paragraph [0033] with the following amended paragraph:

[0033] Figures 4A to 4H show, with the aid of a representation of the different beam or cantilever deformations during a period for the detection of the local material properties at a

certain sample point, the principle of a combination pulsed-force-mode/dynamic ~~friction, in which for better perspicuity it is only in Fig. 4A that reference numbers are given~~ friction. The diagrams shown in the individual figures show here the time dependence of the detected measuring signals, in which the curves 1 and 2 correspond to the real part x and to the imaginary part y, respectively, of the second measuring signal, already mentioned above, on the basis of the lateral cantilever deformation, while the curve 3 shows a typical pulsed-force-mode force signal (first measuring signal).